

## **OIL ANALYSIS REPORT**

Sample Rating Trend

**NORMAL** 



# FREIGHTLINER 201

Component

**Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (--- 0

#### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Test for glycol is negative. There is no indication of any contamination in the oil.

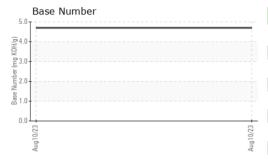
#### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION   method   limit/base   current   history1   history2								
Cample Number   Client Info   PCA0102569	AL)			Aug <sup>2</sup> 023				
Cample Date   Client Info   10 Aug 2023	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2	
Machine Age   mls	Sample Number		Client Info		PCA0102569			
Dit Age	Sample Date		Client Info		10 Aug 2023			
Contamped   Client Info   Changed   NoRMAL   Contamped   Sample Status   NoRMAL   Contamped   Contam	Machine Age	mls	Client Info		101699			
NORMAL	Dil Age	mls	Client Info		50000			
Managenesism   ppm   ASTM D5185m   O   O   O   O   O   O   O   O   O	Oil Changed		Client Info		Changed			
WEAR METALS	Sample Status				NORMAL			
WEAR METALS         method         limit/base         current         history1         history2           fron         ppm         ASTM D5185m         >80         65	CONTAMINATIO	N	method	limit/base	current	history1	history2	
Chromium	Glycol		WC Method		NEG			
Schromium	WEAR METALS		method	limit/base	current	history1	history2	
Action   A	on r	maa	ASTM D5185m	>80	65			
Action   A								
Silver   ppm   ASTM D5185m					_			
Silver				~ _				
ASTM D5185m   SO   South D5185m   SO   South D5185m   South D518				-3				
ASTM D5185m   D5185					-			
Description								
Action					-			
Anadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Mangaese         ppm         ASTM D5185m         0         2             Magnesium         ppm         ASTM D5185m         950         103             Calcium         ppm         ASTM D5185m         950         2216             Phosphorus         ppm         ASTM D5185m         995         833             Pince         ppm         ASTM D5185m         995         833             Sulfur         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1					-			
ADDITIVES				>5	<del>-</del>			
ADDITIVES  method limit/base current history1 history2  Soron ppm ASTM D5185m 2 <1  Barium ppm ASTM D5185m 0 0 0  Molybdenum ppm ASTM D5185m 50 8  Manganese ppm ASTM D5185m 0 2  Magnesium ppm ASTM D5185m 950 103  Calcium ppm ASTM D5185m 1050 2216  Phosphorus ppm ASTM D5185m 995 833  Cinc ppm ASTM D5185m 1180 1061  Sulfur ppm ASTM D5185m 2600 2041  CONTAMINANTS method limit/base current history1 history2  Solicon ppm ASTM D5185m >20 11  Solicon ppm ASTM D5185m >20 43  Consistent ppm ASTM D5185m >20 43  Solicul % ASTM D5185m >20 43  Solicul % ASTM D5185m >20 11  Solicul % ASTM D5185m >20 43					•			
Soron   ppm   ASTM D5185m   2   <1	'	ppm	ASTM D5185m		0			
Description	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum         ppm         ASTM D5185m         50         8             Manganese         ppm         ASTM D5185m         0         2             Magnesium         ppm         ASTM D5185m         950         103             Calcium         ppm         ASTM D5185m         1050         2216             Phosphorus         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         2600         2041             Cinc         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Bilicon         ppm         ASTM D5185m         >20         11             Cotassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D7844	Boron p	ppm	ASTM D5185m	2				
Manganese         ppm         ASTM D5185m         0         2             Magnesium         ppm         ASTM D5185m         950         103             Calcium         ppm         ASTM D5185m         1050         2216             Phosphorus         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         1180         1061             Zinc         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Coldium         ppm         ASTM D5185m         >20         43             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D7844	Barium p	ppm	ASTM D5185m	0	0			
Magnesium         ppm         ASTM D5185m         950         103             Calcium         ppm         ASTM D5185m         1050         2216             Phosphorus         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         1180         1061             Sulfur         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Codium         ppm         ASTM D5185m         >20         43             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >3              Fuel         %         ASTM D544         >3 </td <td>Nolybdenum p</td> <td>ppm</td> <td>ASTM D5185m</td> <td>50</td> <td>8</td> <td></td> <td></td>	Nolybdenum p	ppm	ASTM D5185m	50	8			
Calcium         ppm         ASTM D5185m         1050         2216             Phosphorus         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         1180         1061             Sulfur         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Sodium         ppm         ASTM D5185m         >20         43             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >3              Fuel         %         ASTM D5185m         >3	Manganese p	ppm	ASTM D5185m	0	2			
Phosphorus         ppm         ASTM D5185m         995         833             Zinc         ppm         ASTM D5185m         1180         1061             Sulfur         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Sodium         ppm         ASTM D5185m         >20         43             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D5185m         >20         43             Fuel         %         ASTM D3524         >5         <1.0	Magnesium p	ppm	ASTM D5185m	950	103			
Contamination   Contaminatio   Contamination   Contamination   Contamination   Contamination	Calcium	ppm	ASTM D5185m	1050	2216			
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D3524         >5         <1.0	Phosphorus	ppm	ASTM D5185m	995	833			
Sulfur         ppm         ASTM D5185m         2600         2041             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         11             Bodium         ppm         ASTM D5185m         >20         43             Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D3524         >5         <1.0             INFRA-RED         method         limit/base         current         history1         history2           Bootot %         %         *ASTM D7844         >3         1.4             Soulfation         Abs/cm         *ASTM D7624         >20         12.5             FLUID DEGRADATION         method         limit/base         current         history1         history2           Dxidation         Abs/.1mm         *ASTM D7414         >25         17.3	Zinc p	ppm	ASTM D5185m	1180	1061			
Solition   ppm   ASTM D5185m   >20   11			ASTM D5185m	2600	2041			
Sodium   ppm   ASTM D5185m   3	CONTAMINANT	S	method	limit/base	current	history1	history2	
Potassium         ppm         ASTM D5185m         >20         43             Fuel         %         ASTM D3524         >5         <1.0             INFRA-RED         method         limit/base         current         history1         history2           Goot %         "ASTM D7844         >3         1.4             Bitration         Abs/cm         "ASTM D7624         >20         12.5             Gulfation         Abs/.1mm         "ASTM D7415         >30         22.9             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         "ASTM D7414         >25         17.3	Silicon	ppm	ASTM D5185m	>20	11			
Fuel % ASTM D3524 >5 <1.0  INFRA-RED method limit/base current history1 history2  Soot % *ASTM D7844 >3 1.4  Sultration Abs/cm *ASTM D7624 >20 12.5  Sulfation Abs/.1mm *ASTM D7415 >30 22.9  FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 17.3	Sodium	ppm	ASTM D5185m		3			
INFRA-RED	Potassium	ppm	ASTM D5185m	>20	43			
Soot %	Fuel	%	ASTM D3524	>5	<1.0			
Abs/cm   *ASTM D7624   >20   12.5         Sulfation   Abs/.1mm   *ASTM D7415   >30   22.9         FLUID DEGRADATION   method   limit/base   current   history1   history2     Dividation   Abs/.1mm   *ASTM D7414   >25   17.3	INFRA-RED		method	limit/base	current	history1	history2	
Abs/cm   *ASTM D7624   >20   12.5         Collfation   Abs/.1mm   *ASTM D7415   >30   22.9         FLUID DEGRADATION   method   limit/base   current   history1   history2     Dividation   Abs/.1mm   *ASTM D7414   >25   17.3	Soot %	%	*ASTM D7844	>3	1.4			
Sulfation         Abs/.1mm         *ASTM D7415         >30         22.9             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.3				>20				
Oxidation Abs/.1mm *ASTM D7414 >25 <b>17.3</b>								
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2	
	Oxidation /	Abs/.1mm	*ASTM D7414	>25	17.3			
			ASTM D2896		4.7			



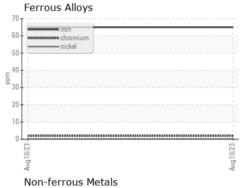
### **OIL ANALYSIS REPORT**



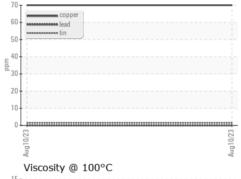
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		

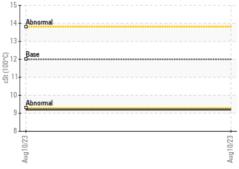
LEGID FUOL		memou			HISTOLAL	HISTORY
Visc @ 100°C	cSt	ASTM D445	12.00	9.2		

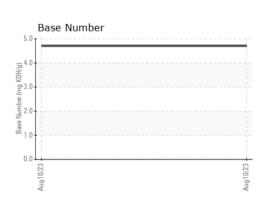
# Viscosity @ 100°C ()<sub>0</sub>12



**GRAPHS** 











Laboratory Sample No. Lab Number Unique Number : 10604074

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0102569 : 05924127

Received Diagnosed

: 14 Aug 2023 Diagnostician : Doug Bogart

: 15 Aug 2023

**Test Package**: FLEET (Additional Tests: FuelDilution, PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

A Truck Repair

9349 China Grove Church Road Pineville, NC US 28134

Contact: Vlad Melnichuk shop@migway.com T: (980)255-3200